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# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference SMC 60545/MO	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB 03/03697	International filing date (day/month/year) 22.08.2003	Priority date (day/month/year) 20.09.2002
International Patent Classification (IPC) or both national classification and IPC C09D11/10		
Applicant AVECIA LIMITED et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
  
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
  - This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.
  
3. This report contains indications relating to the following items:
  - I  Basis of the opinion
  - II  Priority
  - III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV  Lack of unity of invention
  - V  Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI  Certain documents cited
  - VII  Certain defects in the international application
  - VIII  Certain observations on the international application

Date of submission of the demand 13.02.2004	Date of completion of this report 25.06.2004
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Ellrich, K  Telephone No. +49 89 2399-8295



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No.

PCT/GB 03/03697

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-27                          as originally filed

**Claims, Numbers**

1-21                          as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description,        pages:
- the claims,           Nos.:
- the drawings,        sheets:

5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	1-16
	No:	Claims	17-21
Inventive step (IS)	Yes:	Claims	1-16
	No:	Claims	17-21
Industrial applicability (IA)	Yes:	Claims	1-21
	No:	Claims	

**2. Citations and explanations**

**see separate sheet**

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**Concerning point V:**

Reference is made to the following document/s:

- D1: US-A-4416974
- D2: US-A-5439982
- D3: US-A-4270985

**1. Art. 33(2) PCT:**

D1 discloses (example 8) a solvent-less screen printing composition containing 60 pbw TMP trimethacrylate, 60 pbw hydroxypropyl methacrylate and 20 pbw methacrylic acid.

Photoinitiators are mentioned in Col. 6, I. 8-41. However, the compositions of D1 require the presence of more than 60% glass frit, which will not allow for a viscosity being less than 30 cPs, thus being suitable for ink jet printing.

D2 discloses (table 2) a solvent-less monomer solution for coatings or inks containing various methacrylates and a minor amount of methacrylic acid. According to Col. 7, I. 53 to Col. 8, I. 14 also di- or polyfunctional acrylates may be present in minor amounts (Col. 3, I. 41). According to table 11 e.g. up to 7% di-or tri acrylates are used. Furthermore, there is no indication in D2 that would allow to assume that the viscosity would be higher than 30 cPs.

Consequently, the subject-matter of claims 17-21 is anticipated by D2.

**2. Art. 33(3) PCT:**

D3, which represents the closest prior art, is concerned with acrylate-based screen printing inks containing no solvent, (meth)acrylates and carboxylic acids. The claimed subject-matter differs from D3 in that the carboxylic acid is acrylate-functional and in that the viscosity is low enough for ink jet printing, in particular less than 30 cPs.

The problem solved by the present application is the provision of a solvent-less photo resist ink, suitable for ink jet printing and the printing process.

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There is no indication in the prior art to modify the compositions of D3 in a way to allow ink jet printing.

Consequently, the subject-matter of claims 1-21 lacks an inventive step.